



# University of Pretoria Digital Institutional Research Repository Business Plan

*Example Only*

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## **Executive Summary**

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*[Executive Summary: Write this last. It's just a page or two of highlights.]*

A UP institutional repository is one of the products resulting from the e-Information Strategy. The Library e-Information Strategy has been aligned with the overall UP strategy, and the repository will contribute to the library supporting the University's research strategy. According to Lynch (2003) an institutional repository offers a set of services to the members of a community (UP Community), for the management and dissemination of digital academic/research materials (excluding work of administrative or commercial nature) donated to or created by the institution and its community members. The set of services includes the collection, storage and preservation in digital format, and retrieval of items submitted to the institutional repository. In addition to centrally preserve all intellectual output by researchers at the University, this repository will also help improve the visibility, usage and impact of research conducted by UP researchers on the world out there. DSpace open source software will be used for the implementation of this repository.

The Deputy Director: e-Information Strategy & e-Research Enablement is responsible for the development & implementation of the e-strategy, including the institutional repository. The IR Manager and IR IS&T Manager will be responsible for the research, development, implementation & maintenance of the IR.

## **The University of Pretoria, Department of Library Services & e-Information Service**

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*[Company Description: Legal establishment, history, start-up plans, etc.]*

### **1.1 The University of Pretoria**

Being an internationally recognised South African teaching and research intensive university is central to the University of Pretoria's new strategic plan.

Since its humble beginnings in 1908, the University has gone a long way to achieving this goal and is currently considered to be one of the leading institutions of higher education in the country.

To further strengthen its position as a premier research institution and to ensure future success, the UP has developed a research agenda based on four principles:

- Research will make a positive contribution to local, national and international needs aligned with the National R&D strategy as well as international trends;
- Research will be based on the proven capacity that exists within the University and will be built on work of excellent researchers and research leaders;
- Research themes will not only be defined on short-term needs, but also be visionary in that they will identify areas of future potential that will require the University to build competencies in order to remain a premier research institution; and
- The University research agenda should also take cognisance of unique competencies that exist within the University.

### **1.2 Department of Library Services & e-Information Service**

The Department of Library Services plays an integral role in the practical implementation of the University's research agenda. The department has as its core function the provision of a range of support services and products aimed at promoting research through the support of the individuals who carry it out. In order to coordinate the variety of initiatives and to respond to the challenge of integrating online products and services with the university's core processes, an e-Information Strategy has been formulated by the Department of Library Services. The implementation of an institutional research repository (UPSpace) has been identified as one of the services needed in order to maximise technology to enhance the teaching, learning and research processes. An e-Information Service was established as that part of the library primarily responsible for the implementation of the e-Information Strategy.

The main **objectives** of the e-Information Strategy are:

- To take part and make a contribution to the international e-information phenomenon, e.g. open access, digital preservation, eScience, content management.
- To support education innovation and research excellence at UP.
- To deliver optimal e-information portal services (workflow) to our clients.

We have formulated **3 key sub strategies** in order to meet these objectives:

- Development of an e-Information Plan as part of UP's e-strategy.
- The creation of an e-Information Environment for our clients.

- The adjustment of the library's structure, business processes, skills and facilities to support the e-Information strategy.

The e-Information Environment sub-strategy consists of the following projects and services: integrated systems, integrated interface, academic tools, digital reference, ITC infrastructure, e-sources, e-dissertations, digital repositories, e-publication and digital preservation.

Achievements of the previous e-Information Strategy includes the following:

1. Creation of several Library e-Steering committees.
2. Google Scholar and Scholar SFX implemented as global search engine of the library's electronic sources (<http://0-scholar.google.com.innopac.up.ac.za/>). We also bought the commercial SFX link resolver in 2007.
3. Start of e-Books collection project.
4. Development of the skills of library staff (conferences, workshops, courses etc.)
5. Marketing of the Library's e-Strategy, e-Products & e-Services: UP, RSA, Africa & internationally.
6. UP executive supports this strategy.

## Governance

- Deputy Director: e-Information Strategy & e-Research Enablement is responsible for the development & implementation of the strategy (Dr Heila Pienaar)
- e-Information Service is responsible for the research, development, implementation & maintenance of e-products & services that support the strategy
- e-Steering committees (matrix teams) are responsible for co-ordination and development of their respective focus areas

## ***An Institutional Repository Service for the University of Pretoria***

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*[Product or Service: Describe what you'll be offering. Focus on client benefits.]*

### **2.1 About Institutional Repositories**

More and more institutions worldwide are starting to implement digital institutional repositories to capture, store, index, preserve and redistribute a university's scholarly research in digital formats. Scholarly assets can include both digitally born and non-digitally born material of an organization. Currently there are approximately 950+ repositories internationally, and 11 South African repositories listed on the Registry of Open Access Repositories and openDOAR.

A digital repository offers many advantages. In addition to preserving intellectual output in digital format for years to come, it can also help improve the visibility, usage and impact of research conducted at an institution worldwide.

According to Lynch (2003) an institutional repository offers a set of services to the members of a community (*UP Community*), for the management and dissemination of digital academic/research materials (excluding work of administrative or commercial nature) donated to or created by the institution and its community members. The set of services includes the collection, storage and preservation in digital format, and retrieval of items submitted to the institutional repository. "It is most essentially an

organisational commitment to the stewardship of these digital research materials, including long-term preservation where appropriate, as well as organisation and access or distribution” (Lynch 2003).

Universities and research libraries around the world use institutional repositories in many ways (Barton & Waters 2005):

- Scholarly communication
- Storing learning materials and courseware
- Electronic publishing
- Managing collections of research documents
- Preserving digital materials for the long term
- Adding to the university’s prestige by showcasing its academic research
- Institutional leadership role for the library
- Knowledge management
- Research assessment
- Encouraging open access to scholarly research
- Housing digitized collections

## **2.2 About DSpace™**

DSpace™ (<http://www.dspace.org>) software will be used to implement the UP repository, developed at MIT with support from Hewlett Packard, which complies with the Open Archives Initiative (OAI); thus allowing articles to be easily discovered by web search engines, services and indexing tools.

The decision for using DSpace™ was made by the E-Strategy Management Team, under leadership of Dr Heila Pienaar. Important role players that were involved in the decision-making process were:

- ☐ Prof Theo Bothma (Head of Department: Information Sciences)
- ☐ Prof Hans Boon (Director: Education Innovation)

It was therefore a management decision.

The decision to use DSpace™ was based on the following:

- ☐ The software complied with UP functional requirements;
- ☐ The software complied with UP technical architectural requirements.

The DSpace interface provides for easy decentralised self-archiving by faculty, and organizes the documents in logical, easily retrievable fashion.

Each item in the repository will be assigned a unique persistent identifier, using the CNRI Handle System. The identifiers will be resolvable in perpetuity, and will remain valid even if content migrates to a new system. This allows documents in the repository to be properly and effectively cited in other research.

### **DSpace™ Availability**

- Free, open source software
- Latest version: DSpace 1.5
- Distributed through the BSD open source license
- Download at <http://sourceforge.net/projects/dspace/>

(Barton & Waters 2005)

### **DSpace™ Features**

We decided on DSpace™ because of the following reasons:

- ☐ MIT designed the system in collaboration with the Hewlett-Packard Community between March 2000 and November 2002. It can therefore be regarded as highly reputable.
- ☐ The key aim of DSpace was and still is the long-term preservation of the intellectual output of researchers.
- ☐ It is easy to retrieve digital objects that have been submitted to DSpace.
- ☐ Regarding to scalability – DSpace can handle large volumes of data.
- ☐ It also supports full text searching.
- ☐ There is a good separation between data and metadata.
- ☐ DSpace supports the Open Archives Initiative.
- ☐ With open source the code is available to any programmer to change or adapt as he/she wishes.
- ☐ DSpace allows for easy integration into the existing UP Portal.
- ☐ It has a well defined workflow, automatically generates e-mails and forward tasks to different role players in the workflow process.
- ☐ It uses the Lucene Search Engine, which is a simple, high-performance, powerful search engine.
- ☐ The structure supports the participation of faculties, departments, research centers and other units typical of a large institution such as the University of Pretoria.
- ☐ It conforms to the technical and functional requirements set by our Dept. of IT.
- ☐ Our Dept. of IT supports the use of open source products.
- ☐ When accessing DSpace via the portal the user gets authenticated against the LDAP server, using the e-mail address of the user to verify and allow the user to submit items. Browsing is open to the rest of the WWW Community, and a user does not need to be authenticated to browse a Collection.
- ☐ Distributed input from faculties and departments is possible.
- ☐ Suitable platform for academic digital objects.
- ☐ Quality control allows for review, editing and metadata editing of submitted items.
- ☐ Supports important metadata standards, e.g. Dublin Core.
- ☐ Is OAI-PMH v.2.0 compliant.
- ☐ Java programming language is used.
- ☐ XML
- ☐ Database PostgreSQL
- ☐ Security on various levels.
- ☐ Server is available at UP.
- ☐ 200+ instances of DSpace currently running worldwide.
- ☐ Persistent identifiers assigned to each item (CNRI handle system).
- ☐ Largest community of users and developers worldwide.

A comprehensive evaluation has been conducted on open source institutional repositories: *A guide to Institutional Repository Software* by the Open Society Institute available at <http://www.soros.org/openaccess/software/>

### **DSpace™ Technical Support**

- DSpace-Tech mailing list for technical questions and discussions
- SA DSpace Community (Universities of Stellenbosch, Johannesburg, Cape Town, Witwatersrand, UNISA, etc.)
- DSpace Wiki and Web Page

(Barton & Waters 2005)

## 2.3 Motivation for Open Source

From the literature it is clear that open source is gaining momentum amongst the higher education community nationally and internationally. "Open source software is also finding a home in the [SA] government arena. Following Cabinet's ratification of an open source strategy for South Africa earlier this year [i.e. 2005], a range of projects have been initiated by government, in particular the Department of Public Service and Administration (DPSA). For example the DPSA, together with the CSIR, earlier this year initiated a project to develop an open source corruption management system. Government also runs its wide area network using primarily open source software. The Centre for Public Service Innovation is also furthering the use of open source software through a number of projects designed to provide mobile access to government services in the under-served areas of the country. For a developing country like South Africa, OSS offers many benefits linked to social, economic, skills and business development." (<http://www.go-opensource.org/> )

The SA Government OSS strategy document is available at <http://www.oss.gov.za/>

The main reasons for using open source at UP are the following:

- ☐ It promotes collaboration and knowledge sharing between institutions who have the expertise, and the ones who do not have the expertise or necessary resources to start such a service. UP can contribute in this regard.
- ☐ With open source software all participants benefit, and not only the vendor.
- ☐ The product belongs to all, and lots of support is available from the open source community.
- ☐ No marketing is involved – therefore there is not a clever salesman involved selling the product, only focusing on the stuff the program can do, and not the limitations.
- ☐ With open source, what you see is what you get.
- ☐ Open Source software is flexible.
- ☐ It promotes openness and creative thinking.
- ☐ It is open for scrutiny.
- ☐ It is searchable and retrievable via the World Wide Web.
- ☐ It can be used by institutions with minimal resources.
- ☐ World standards and open standards are used, which make it a very favorable choice.

## 2.4 An institutional repository for the University of Pretoria

The institutional repository will be referred to as *UPSpace*, and will be a full text managed open access research repository.

### 2.4.1 Service Model

The following services will be offered to members of the UP Community (Barton & Waters 2005):

Institutional Repository Services	Core service (free)	Premium service (fee-based)
Setting up the IR using DSpace	✓	
Setting up academic departments and other content communities in IR	✓	
Metadata consultation	✓	
Custom metadata creation	✓	
Training content submitters	✓	
User support for content	✓	



submitters (troubleshooting etc.)		
Document services - Scanning - OCR - Reformatting files		✓
Basic storage allocation	✓	
Extra storage space		✓
Batch import of data: - Historic collections - Newly digitized collections	✓	
User reporting	✓	
IT Systems management	✓	
Online help	✓	
Copyright & IP consultation	✓	
Managing the IR & individual Collections	✓	
Register with harvesters	✓	
General consultation	✓	

## 2.4.2 Service Definition

### ***Service Mission***

The mission of the IR service will be to:

- Increase the visibility, usage and impact of research by UP researchers;
- Increase the profile of UP researchers and the University of Pretoria, by help impacting on their H-index, NRF-rating, and finally on the position of UP on the Shanghai Jiao Tong University's list of the world's top 500 universities;
- Create an institutional leadership role for the library;
- Showcase the university's research output;
- Capture and preserve all UP research;
- Provide vital services to academics;
- Help other SA libraries to meet the challenges of the digital realm;
- House digitized collections;
- Support the Open Access phenomenon.

(Barton & Waters 2005)

### ***Content to be accepted***

The following content will be accepted:

- Research (scholarly) articles (published peer-reviewed & pre-prints)
- Open lectures
- Conference papers & proceedings
- Image collections
- Audio and audio-visual material
- Special collections which contain very unique material
- Technical reports
- Inaugural addresses
- Theses & dissertations
- Datasets

- Etc.

No material of administrative or temporarily nature will be accepted.

(Barton & Waters 2005)

## **Market Analysis**

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*[Market Analysis: You need to know your market, customer needs, where they are, how to reach them, etc.]*

This set of services will be delivered to the members of the UP Community.

The *UP Community* refers to:

- Present and future staff members of the Department of Library Services, University of Pretoria;
- Past, present and future academic staff at the University of Pretoria;
- Focus areas, faculties, centers, institutes and research divisions at UP.

The key users will be:

- Academics
- Library staff
- Students
- Administrators e.g. Research Office
- Internal Research Staff
- External Researchers

The key stakeholders will be:

- Academics
- Library staff
- Students
- Administrators e.g. Research Office
- Internal Research Staff
- External Researchers

(Barton & Waters 2005)

Self-archiving of research by researchers will be encouraged.

Early adopters that have been identified to run a pilot program are:

- Scholarly publications (i.e. research articles) (All departments)
- Gerhard Moerdijk Collection (Dept. of Architecture)
- Arnold Theiler Collection (Faculty of Veterinary Science)
- Jonathan Jansen Collection (Faculty of Education)

*[Also include results from your Needs Analysis here]*

## **4. Strategic Context**

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*[Strategy and Implementation: Be specific. Include management responsibilities with dates and budgets. Make sure you can track results.]*

*[Also see Timeline Part 5 for Implementation]*

The development of the e-Strategy has been aligned with strategic developments on local, national and international levels. The following are important elements of this strategic context:

- The impact of the Internet and IT on the academic environment (<http://books.nap.edu/books/030908640X/html/index.html>)
- The emphasis on new ways of functioning within the academic information and knowledge environment, e.g. archiving, open access/ alternative scientific communication, open source software, e-information resources, search engines, digital research, information literacy, knowledge management, new roles for subject librarians, and the development of academic portals (Online Information conference, 3-5 December 2002, London, United Kingdom)
- Some national and regional institutions have taken various initiatives in the e-environment. Examples are: University of KwaZulu-Natal (DISA Digitization Project), University of Cape Town (Greenstone Project), University of the Witwatersrand (e-theses initiative), Gaelic (pilot project for digital reference service)
- , Sabinet (SA e-journal project), SASLI and SARIS initiatives and the former Technikon SA (UNISA Roodepoort Campus) ("African digital library").
- The UP/CSIR alliance within which the UP Dept of Library Services and the CSIR Information Service have developed an information partnership (SERA).
- The focus on education innovation at UP and other SA universities.
- UP's emphasis on business orientation.
- The changing demographic composition of students and staff at UP, with accompanied changing IT and information literacy skills.
- The emphasis the new Department of Education funding framework puts on research output by universities.
- The 2005-2010 UP strategic framework.
- Die UP portal as official IT platform using open standards (Java and XML).
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In order to coordinate the variety of initiatives and to respond to the challenge of integrating online products and services with the university's core processes, an e-Information Strategy has been formulated by the Department of Library Services. The implementation of an institutional research repository (UPSpace) has been identified as one of the services needed in order to maximise technology to enhance the teaching, learning and research processes. An e-Information Service was established as that part of the library primarily responsible for the implementation of the e-Information Strategy.

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3. Start of e-Books collection project.
4. Development of the skills of library staff (conferences, workshops, courses etc.)
5. Marketing of the Library's e-Strategy, e-Products & e-Services: UP, RSA, Africa & internationally.
6. UP executive supports this strategy.

## **Governance**

- Deputy-director: e-Information Strategy & e-Research Enablement is responsible for the development & implementation of the strategy (Dr Heila Pienaar)
- e-Information Service is responsible for the research, development, implementation & maintenance of e-products & services that support the strategy
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## **5. Marketing**

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### **5.1 Potential Audiences**

This service will initially be marketed to the following:

- Coordinators of the 4 champion collections identified
- The UP webmaster
- Information Specialists
- Research Office
- Department of Library Services Management
- Library Advisory Committee
- Library IT & S Unit

### **5.2 Marketing Approach: Bottom-Up**

(Barton & Waters 2005)

A bottom-up approach will be followed when marketing this service to the UP Community:

- A bottom-up approach pitches the service to academics, staff, communities that publish on our university website, technical staff in departments, and groups dealing with publications, etc. In this approach, we will prove the need for an institutional repository before requesting support at a higher level.
- Get academics interested in preserving their work for the long-term.
- Tap our Academic Advisory Committee to describe to their colleagues the benefits of using an institutional repository.
- Recognize that different departments have different cultures around scholarly communications, different digital needs.
- Look for academic acceptance in a wide range of disciplines, each with different cultures, and different publishing and digital needs.
- Approach academics who have publications on their department or faculty websites.
- Meet the editors, webmasters, and content managers on campus and present the service to them. They understand the challenges of online content management and preservation and can be great advocates for institutional repositories.
- Collaborate with other initiatives on campus for online content, courseware, etc.

### 5.3 Marketing Communications Plan

(Barton & Waters 2005)

Ongoing Communications Activities				
Event	Purpose	Person(s) Responsible	Target Audience	Repeat
IR Website	Provide general information	User Support Manager	World	Continuous
Online Newsletter	Disseminate news about IR service	User Support Manager	Library staff, Advisory groups, Early Adopters	Quarterly
Meetings with Academics and Community Groups	Acquaint prospective communities with IR service	User Support Manager	Academics, Content Communities	Continuous
FAQ	Provide concise responses to commonly asked questions	System Support Manager & User Support Manager	World	As needed
Update Libraries Publications Packet	Incorporate IR into library's services	University News Office	Library's targets	Annual
Links from library website: (home page, departmental pages, subject	Incorporate IR into library's services	Webmaster	Web site audience	As needed

(Barton & Waters 2005)

<b>Ongoing Communications Activities</b>				
<b>Event</b>	<b>Purpose</b>	<b>Person(s) Responsible</b>	<b>Target Audience</b>	<b>Repeat</b>
pages)				
<b>Hands-on training sessions</b>	Educate library staff	System Support Manager & User Support Manager	Library Staff	Continuous
<b>Articles, Press Releases &amp; Publicity Events</b>	Raise awareness	University News Office	University, World	Continuous
<b>Orientation for new academics and staff</b>	Inform academics about IR, benefits	User Groups	New Academics and Staff	Annual
<b>Press Kit</b>	Provide Information about IR service	University News Office	Press	Annual

(Barton & Waters 2005)

### *Institutional Repository Launch Events and Activities*

Communications Events and Activities			
Event	Purpose	Person(s) Responsible	Target Audience
<b>Spotlight on University Home Page</b>	Advertise launch events, Raise awareness of IR service	University News Office	Campus
<b>All Staff Meeting</b>	Raise staff awareness of IR, answer questions	Planning Team	Libraries Staff
<b>Articles in Campus Magazines and Newspapers</b>	Promote participation; raise awareness on campus	User Support Manager and University News Office	Campus, Academics, Alumni
<b>Live Demo for Library Council</b>	Build understanding of IR service	IR System Manager, User Support Manager	Library Council
<b>IT Partners Conference</b>	Raise awareness on campus	User Support Manager	IT Staff
<b>All Staff Meeting</b>	Share final report of planning committee	IR Planning Team	Library staff
<b>Alumni Events</b>	Fundraising	University News Office, Development Office	Alumni
<b>Printed Brochure</b>	General information about IR service.	University News Office	Public
<b>All Academics, Electronic Mailing</b>	Promote launch event	University News Office	Academics
<b>Press Releases for Launch</b>	Announce launch of IR service	University News Office	General public, Higher education, Research community, Library community
<b>Launch Event</b>	Celebrate launch of IR service & fundraising	University News Office	University community, donors

## 6. Management & Staffing

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### 6.1 Governance

- Deputy-director: e-Information Strategy & e-Research Enablement is responsible for the development & implementation of the e-strategy (Dr Heila Pienaar)
- e-Information Service is responsible for the research, development, implementation & maintenance of e-products & services that support the strategy. IR Manager (Ina Smith) & IR IT Manager (Leonard Daniels)
- e-Steering committees (matrix teams) are responsible for co-ordination and development of their respective focus areas. Chair of IR Steering Committee: Ina Smith

### 6.2 IR Roles

Role	Staff Member	% Time Allocated
IR Manager (incl. User Support Manager)	Ina Smith	100% Time
IR IS & T Manager (incl. Programmer)	Leonard Daniels	30% Time
Metadata Specialist	Amelia Breytenbach	30% Time
Digitization Specialist	Ria Groenewald	100% Time
Copyright Specialist	Jacob Mothutsi	30% Time
Collection Administrators	Information Specialists	5% Time
Reviewers	Subject Experts	5% Time
Metadata Editors	Cataloguers	5% Time

### 6.3 Job Descriptions

(Barton & Waters 2005)

#### 6.3.1 IR Manager (incl. User Support Manager)

Reporting to the library's Deputy Director: e-Information Strategy & e-Research Enablement, the IR Manager has primary responsibility for managing the communication with and support of the institutional repository's users, and particularly those users adding content to the system. This position requires a knowledgeable, enthusiastic, and self-motivated individual.

#### **Responsibilities**

- Take primary responsibility for all aspects of the system's user management.
- Perform user training for library staff and content contributors.
- Provide expertise and assistance to the library's public services staff in their support of IR end -users.
- Coordinate and manage the definition and setup of new IR content groups, and coordinate and communicate with library subject specialists.
- Perform outreach to university community, including site visits to academics and open training sessions.
- Make recommendations on new functionality to IT systems programmers based on feedback from academics, submitters, and library staff.
- Work with public relations organizations to publicize the institutional repository service.
- Coordinate importing of historical collections with the System Manager, including collection assessment, metadata consulting, conversion referral, and developing metadata crosswalks if necessary.
- Provide consultation on university policies and legal and regulatory issues related to intellectual property and sponsored research as they relate to the institutional repository service.
- Work on projects and teams with library and other groups at university who are closely aligned with IR services (such as a Metadata Advisory Group, online education initiatives, etc.).
- Chair the IR Policy Advisory Group and participate in the Policy Committee.



**Qualifications**

- Master's degree in library science, or equivalent experience
- Experience with using, and helping others in an academic setting to use web-based software
- Extensive knowledge of library practices and goals, especially with regard to technology
- Working knowledge of web-based publishing tools and practices (such as HTML)
- Excellent written and oral communication skills and interpersonal skills
- Understanding of library mission and ability to communicate system mission and functionality clearly to key library staff and users at the university

**Other experience desired**

- Experience supporting complex library systems
- Knowledge of the university community and research interests

**6.3.2 IR IS & T Manager**

To run an institutional repository system you need a technologist who can take primary responsibility for the technology. Reporting to the library's Deputy Director for Technology, the IR Information Systems and Technology Manager has primary responsibility for all aspects of the technical management of the institutional repository. The position requires a knowledgeable, enthusiastic, and self-motivated individual.

**Responsibilities**

- Hold primary responsibility for all aspects of the system's technical management.
- Coordinate related work by the Libraries' Systems Office and IS staff, including training.
- Contribute bug-fixes and other enhancements to the systems developer if applicable (for open source systems, primarily).
- Perform system monitoring, testing, and debugging.
- Provide system administration.
- Monitor and upgrade utility programs and middleware.
- Develop approved system enhancements.
- Manage hardware contracts and system administration tasks for IR servers, documenting operational issues.
- Participate in projects and teams working on activities related to the IR service.

**Qualifications**

- Master's degree in computer or library science, or equivalent experience
- Experience programming (generally speaking, Java) and managing code written by others
- Understanding of network (especially web) development issues
- Experience with Unix systems and basic system administration skills

**Other experience desired**

- Experience with Open Source development projects and procedures by which source of a project is shared with the community (for open source projects only).

## 7. Proposed Budget

[Work with Financial Officer]

Following some primary and initial budget issues that will be taken into account:

Human Resources			
Resource Type	Man hours	Rate (R/hour)	Cost
IR IT & S Manager	Semi-Full time	Level 9	Max R 153 846 p.a. R 199 270.39 Cost per Company
IR Manager (incl. User Support Manager)	Full time	Level 7	Max R 201 000 p.a. R 270 000.39 Cost per Company
Metadata Specialist	Current Staff	N/A	N/A
Digitisation Specialist	Current Staff	N/A	N/A
Copyright Specialist	Current Staff	N/A	N/A
Cataloguers (1 per Focus Area)	Current staff	N/A	N/A
Subject Librarians (1 per Focus Area)	Current staff	N/A	N/A
Hardware			
Resource Type	Description	Cost	
*DSpace Server	SAN Dual Intel™ Xeon™ CPU 3.20GHz, 4GB Memory, Size 400 GB		
Archival Server (tiff images & back-up's)	SAN (3 terra bytes – depends on what you want to archive in tiff, if any – important for special material that have been digitized)		
Scanners & accompanying software	A3 EPSON 1540 or higher for ordinary scanning; <a href="#">BookEye Scanner</a> (for extremely specialised scanning)		
Back-up Hardware	Consult with IT Department		
Software			
Resource Type	Description	Availability	Cost
Dspace	Platform software	<a href="http://sourceforge.net/projects/dspace/">http://sourceforge.net/projects/dspace/</a>	R 0,00
Java 1.4		<a href="http://java.sun.com/">http://java.sun.com/</a>	R 0,00
Apache Ant 1.6.2		<a href="http://ant.apache.org/">http://ant.apache.org/</a>	R 0,00
PostgreSQL 7.3		<a href="http://www.postgresql.org/">http://www.postgresql.org/</a>	R 0,00
Jakarta Tomcat 4.x/5.x		<a href="http://jakarta.apache.org/tomcat/">http://jakarta.apache.org/tomcat/</a>	R 0,00
CNRI Handle Server		<a href="http://www.handle.net/index.html">http://www.handle.net/index.html</a> For fees: <a href="http://www.handle.net/HSJ/hdlnet-2-SVC-AGREE-3.pdf">http://www.handle.net/HSJ/hdlnet-2-SVC-AGREE-3.pdf</a>	\$50 (Registration) \$50 (Annual Service Fee)
**Additional Digitization & Editing software			
Resource Type	Description	Availability	Cost
Adobe Distiller	<a href="#">Converts</a> (print) digitally born documents to a PDF version i.e. MSWord document to a full PDF	<a href="http://www.adobe.com/support/downloads/product.jsp?product=acd&amp;platform=win">http://www.adobe.com/support/downloads/product.jsp?product=acd&amp;platform=win</a>	
Adobe Reader	<a href="#">Reads</a> pdf documents	<a href="http://www.adobe.com/ap/products/acrobat/readstep2.html?ogn=AP-gntray_dl_get_reader_ap">http://www.adobe.com/ap/products/acrobat/readstep2.html?ogn=AP-gntray_dl_get_reader_ap</a>	R 0,00
Adobe Acrobat	<a href="#">Edits</a> PDF	<a href="https://store3.adobe.com/cfusion/store/index.cfm?">https://store3.adobe.com/cfusion/store/index.cfm?</a>	

(Standard or Professional)	documents i.e. minor editing to the text/ document pages or to save the document as TIFF or JPEG images, enables security settings etc. Use for OCR	<a href="#">store=OLS-AP&amp;view=ols_prod&amp;category=/Applications/AcrobatPro&amp;distributionMethod=FULL&amp;nr=0&amp;promoid=BONQH</a>	
ABBYY – PDF Transformer	<a href="#">Converts</a> PDF documents back to their original format or other editing formats, i.e. from PDF to MSWord	<a href="http://www.pdftransformer.com/">http://www.pdftransformer.com/</a>	
Adobe Photoshop	Graphics <a href="#">editing</a> program -the current and primary market leader for commercial bitmap and image manipulation	<a href="http://www.adobe.com/products/photoshop/compare/">http://www.adobe.com/products/photoshop/compare/</a>	
TOTAL			

\*\* Number of licenses depends on needs and availability of financial resources

## **8. Recommendations & Implementation**

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In order to implement and provide IR services with a reasonable chance of success, staff will be required.

In implementing a new system and service, we anticipate the need for considerable effort to fine-tune both the technology and the service component in the first year. In addition, we expect considerable growth in the user base. We believe that trying to accomplish the set goals without dedicated staff would be very risky. If dedicated staff are not assigned, full responsibility for the technical support of the IR will fall to the Libraries' IS & T Unit, and the responsibility for user support will become the work of the Information Specialists throughout the library. While we do expect Information Specialists to be involved with users, we believe that relying totally on existing staff in various units would be far too fragmented for the launch of a very important new service that needs concentrated attention. In addition, it would seriously compromise other important public services initiatives by drawing away the time of staff members responsible for their planning and implementation. As the IR expands in scope and functionality, management and support efficiencies will have to increase simultaneously.

The IR Implementation Team will be responsible for negotiating further implementation of this business plan.

*[Include details on implementation]*

## 9. Bibliography

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